

## ARMY AVIATION – BACK TO ITS ROOTS

BY

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**ARMY AVIATION – BACK TO ITS ROOTS**

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## **ABSTRACT**

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## ARMY AVIATION – BACK TO ITS ROOTS

The evolution of the attack helicopter, including its missions, roles and doctrine demonstrates the origins of air ground integration, the divergence of Army Aviation from its supported counterparts; and the return to close, supporting relationships. It was not until the Army found itself in the middle of counterinsurgencies against a technologically backward foe that out of date, and out of favor tactics were reborn to support ground forces. Close combat on an ambiguous, non-linear battlefield in many ways replicated the operational environment of Vietnam, though in a far different physical environment. Army Aviation, once a part of ground units, grew independent and lost the close relationship and expertise that gave rise to the branch in the first place. Army Aviation has returned to its roots, fighting Operations IRAQI and ENDURING FREEDOM as indispensable coequals, albeit in a supporting role that the branch embraces, with habitual relationships that improve the effectiveness of both aviation and ground units.

U.S. Army Aviation was borne of necessity to expand the ground forces' battle space to the third dimension. The first aviators were a part of ground units, and the close fight in Vietnam fostered an air-ground team seamlessly integrated in the close fight. An incremental growth in mission corresponded to improvements in technology and expansion of capability. The increasingly complex aircraft and threat environment drove specialization of training, and a need for personnel policies which allowed aviators to remain in aviation assignments to develop expertise at employment of these new tools. The result was aviation branch – a combat arms branch on equal footing with traditional branches of infantry, armor, and artillery. In an effort to address numerical superiority of the Soviets and establish themselves as independent coequals

on the modern battlefield, aviators espoused doctrine and tactics focused on being employed as a maneuver element, not a supporting element. A nearly singular focus on destroying massed Soviet armor formations beyond the forward line of troops was underlying all doctrine and training in Army Aviation; the result was a branch estranged from the other combat arms from which it was born.

The end of the cold war may have signaled the end of the need (or the luxury) of focusing on linear battlefields with clean lines and clearly identifiable target arrays of heavy forces. In the place of the most likely scenario – a Soviet advance through the Fulda Gap – the U.S. military would find itself involved in smaller scale contingencies and stability operations. With the exception of Operation Desert Storm, the rest of the world faced counterinsurgency and small war with little likelihood of facing massed heavy forces requiring attack helicopter battalions in mass. Army Aviation did not adjust the doctrinal vision of future enemies and future aviation missions to the new world of small scale operations. An analysis of attack aviation history and doctrine shows the circular path of air ground integration from the origins of aviation to present day

### Early Army Aviation

Having won the internal Air Corps battle, strategic bombardment advocates ardently defended centralized air power, and part of the institutional centralization included being the proponent for development and procurement of all aircraft. As such, in the period setting the conditions of World War II, airplanes became faster and more technologically advanced. This created two problems for traditional Army support missions of artillery spotting and liaison. Besides being too fast, and at too high an altitude to effectively observe and adjust indirect fires; these aircraft required an

established airfield to be properly maintained and supported. This divorced the aviators from the supported ground unit and “seriously affected their working relationship and introduced a deteriorating command and organization problem.”<sup>1</sup>

The Army needed a light, slow airplane that could land in rough, short, unprepared areas close to the supported unit. To address this need, the Army tested light civilian aircraft during the Louisiana Maneuvers of 1941. The tests proved extremely successful and after much continued lobbying of civilian lawmakers and War Department leadership, organic aviation was approved for Field Artillery spotting on 6 June 1942. The first true Army Aviation elements had been established.<sup>2</sup>

The utility of these aircraft during World War II led to the expansion of its roles as innovative soldiers found uses for these aircraft. Following the war, the National Defense Authorization Act of 1947 established the Air Force as a separate service. The cast offs – unglamorous pilots and slow, ugly aircraft – that had performed so well during the war were the seeds of a future branch.<sup>3</sup> A revolution in technology, the helicopter, would propel the growth Army Aviation.

#### Korea – Helicopters Enter the Arena

The Korean War was the first employment of the helicopter in military service. Prior to the war, the Army purchased H-13s for missions similar to the light fixed wing aircraft of WW II – artillery adjustment, medical evacuation, wire laying, courier, and command and control.<sup>4</sup> The procurement and use of helicopters grew significantly during the Korean War. FM 20-100: *Army Aviation* declared in 1952 that “The helicopter may be used as a supplement to or as a substitute for, slower surface transportation. Commanders employing helicopters may maneuver reserves rapidly to

envelop critical terrain features, circumvent stubborn centers of resistance, and counter hostile threats to attack. Maneuver is possible over and around hill masses, across water barriers, and into areas lacking in suitable road nets.”<sup>5</sup> A decade later this vision would be realized in the air mobile tactics of Vietnam. The appreciation of the helicopter was such that by the end of the war the Army inventory of rotary wing aircraft exceeded 800.<sup>6</sup>

Appreciation of Army Aviation was not the only impact of the Korean War on Army leaders; the poor showing by the U.S. Air Force providing close air support unwittingly set the conditions for development of armed helicopters. The difficult terrain, and resulting close infantry fight created many instances where close air support was not only necessary, but saved the U.S. ground forces. Marine Corps aviation, whose top priority was CAS, was more effective than its Air Force counterparts. The focus of the Air Force and the preponderance of their missions went to deeper interdiction targets, despite the paucity of strategic targets in a less developed country. At the end of the war, soldiers were more convinced than ever that they could not count on the Air Force – they needed their own close air support assets.<sup>7</sup> Former Army Chiefs of Staff Matthew Ridgeway and Maxwell Taylor both made clear in their post-retirement memoirs that the Air Force has ignored the close air support mission, and that the Army needed to develop organic capability.<sup>8</sup> These sentiments throughout the Army would be the impetus for development of armed Army aircraft.

#### Post-Korea – Setting the Conditions for Vietnam

Innovative soldiers had been attempting to fire ordnance from Army aircraft since the beginning, though none were especially effective. Not until the run up to Vietnam

did technology and vision combine to establish a requirement and capability that could overcome Air Force opposition. Enabling this development in 1956, Major General Hutton, Commandant of the Aviation School, directed tests which led to the first helicopters armed with machine guns and rockets. MG Hutton thought the priority for Army Aviation was armed aerial weapons platforms to fill the void created by the Air Force's emphasis on strategic bombing.

The Rogers Board of 1960 recommended procurement of UH-1 Hueys as the backbone of the helicopter fleet, and envisioned that technology would be available by 1965 that would make air-to-surface point and area weapons feasible.<sup>9</sup> Going beyond its equipment review mandate, the board's report included an addendum penned by Major General Hamilton Howze that recommended testing of an air cavalry organization to test the concept of employing helicopters and air mobile ground troops in traditional cavalry roles.<sup>10</sup>

When Secretary of Defense McNamara tasked the Army in April 1962 to improve tactical mobility, he was searching for a "plan for implementing fresh and perhaps unorthodox concepts which will give us a significant increase in mobility."<sup>11</sup> Capitalizing on his previous experience and interest, the Army charged Lieutenant General Howze with this review. Using his experience on the Rogers board and his previously stated vision of an air cavalry method of fighting using helicopters, he published what would be one of the most fundamental documents in the future of Army Aviation. The board recommended the Army restructure five of the sixteen divisions into air assault divisions.

Theorizing employment in many different types of terrain and against many different enemies, the board did test and foresee the requirement for attack helicopters to be able to destroy armor, and foretold the need for a purpose built aircraft with anti-tank missiles. The board recommended establishment of three air cavalry combat brigades (ACCB) with 316 helicopters, including 144 attack aircraft. The AH-1 would enter service in the late 1960s, and would eventually be upgraded to include TOW missiles as the lessons late in Vietnam would reinforce this need on the plains of Europe.

These recommendations for tremendous increase in air assault prominence on the battlefield, supported by an emerging capability of armed helicopters would prove critical to the advancement of Army Aviation and its coming of age in Vietnam. Expectedly, the recommended proliferation of aircraft – especially armed aircraft – was not well received by the Air Force. Their vehement opposition was, however, quelled when President Kennedy and Defense Secretary McNamara observed a demonstration and Kennedy suggested that the Army needed more gunships.<sup>12</sup>

Not wanting to undertake such bold initiative without further analysis, the Army ordered a test of the air assault division. In January 1963 the Department of the Army directed establishment of the 11<sup>th</sup> Air Assault Division (Test) and 10<sup>th</sup> Air Transport Brigade at Fort Benning to test the concepts recommended by the Howze board. Many of the innovations involved jury rigging weapons on Hueys and Mohawks. The armed Mohawk would later be sacrificed “on the altar of overall accord with the Air Force”<sup>13</sup> over their opposition to Army ownership of a relatively high performance aircraft conducting close air support. The armed Hueys, however, would set the stage for Army

Aviation's attack helicopters that would, in many ways, necessitate and define a separate Aviation branch in the future.

The final test, labeled Air Assault II, took place in the fall of 1964 and was hailed as a success. The commander of the aggressor force, Major General Robert H. York of the 82d Airborne, validated the potential of the air assault doctrine. He stated, "Seldom do we see a new military concept which can contribute to decisively throughout the entire spectrum of warfare."<sup>14</sup> While he spoke of full spectrum operations, Vietnam was an ongoing war, and many of the lessons learned were integrated into the 11<sup>th</sup> Division's techniques. BG Kinnard commented that the division had potential at all levels of combat, but "in low scale war ...it can exert control over a much wider area and with much more speed and flexibility and with much less concern for the problems of interdicted ground communications or of difficult terrain."<sup>15</sup> In effect, the division was perfect for Vietnam – the Army's leadership agreed.

#### Vietnam – Helicopters Become Indispensable

In July 1965, the Army activated the 1<sup>st</sup> Cavalry Division from the 11<sup>th</sup> Air Assault Division and the 2d Infantry Division; as the first permanent air assault division. They would be on their way to Vietnam within 90 days. However, before their arrival the 173d Airborne Brigade discovered the utility of attached helicopter units, and the effectiveness of air assault tactics in the jungles. The Combat Developments Command noted about the 173d and its attached helicopter company: "The cohesiveness and teamwork developed between the supported and supporting units is extremely important. The aviation company is attached to the brigade, lives with the brigade, and works with the brigade on a daily basis....This closeness and cohesiveness between

the brigade and the aviation company has been achieved through constant practice and improvement of airmobile techniques....Furthermore, effectiveness of the attached company increased appreciably.”<sup>16</sup> This was the genesis of air ground integration (AGI) as we now know it; these early lessons are those that aviators would relearn 40 years later.

The 1<sup>st</sup> Cavalry Division changed the face of warfare in Vietnam. In the most well known air mobile action, LTC Hal Moore’s air assault force killed 634 enemy fighters in a fierce battle after his battalion landed deep in the heart of heavily defended North Vietnamese Army territory. The well-trained procedures for insertion, extraction, and helicopter fire support were critical to their success. LTC Moore noted that aerial rocket artillery (ARA) had been extremely effective, and that they were able to employ these fires simultaneously with tactical air and artillery fires.<sup>17</sup>

Though not labeled as such at the time, this technique would later be developed into joint air attack team (JAAT) procedures that would be required to destroy Soviet armor formations. The ARA were organized as general support forces, attacking in mass in response to calls for fire, similar to the Little John rocket artillery that they replaced in the air assault division.<sup>18</sup> These massed, general support aircraft performed well in this, and many other instances; but, by the nature of their general support, they were not as familiar as their air cavalry gunship counterparts with the detailed operations of the supported units – fratricide would often result.<sup>19</sup>

The utility of 1<sup>st</sup> Cavalry’s tactics was immediately recognized, and the tactics spread to other units. What they learned was that these tactics required close coordination and training between air and ground, to the point that it becomes second



nature. To reach this degree of effectiveness, the supporting aviation unit must be part of the ground team. If the aviators were not routinely attached, the team was not as proficient. As MG John Tolson pointed out, every ground commander knew instinctively that “he could do certain things with ‘his’ Hueys that he couldn’t quite do with ‘somebody else’s’.”<sup>20</sup> The 101<sup>st</sup> routinely placed an airmobile company of helicopters in direct support of each infantry battalion resulting “in increased responsiveness, and enhanced the effectiveness of aviation support.”<sup>21</sup>

The Huey became the symbol for the Vietnam War; for an entire generation of soldiers, the helicopter would be as common as any weapon system in the fight. As the war drug on, Huey gunships gave way to the more sophisticated, purpose-built AH-1 Cobra attack helicopter. This aircraft brought increased speed and lethality to the battlefield, and would come to represent the future of Army Aviation after the Vietnam War. The experience of the Army in the latter phases of the Vietnam War would drive the development of attack doctrine and weapons.

From February to April 1971, the Army of the Republic of Vietnam (ARVN) conducted Operation LAMSON 719 into Laos to destroy enemy sanctuaries. Congress authorized only U.S. air operations in Laos, so Army Aviation solely supported ARVN ground forces. This airmobile operation would rely heavily on armed helicopters for fire support, and to conduct cavalry missions of seeking out and destroying the enemy. Of the 700 helicopters supporting this operation, 117 were Cobras, and 60 were Huey gunships (UH-1Cs).<sup>22</sup> This operation faced resistance unseen in South Vietnam.

The NVA air defenses were more lethal than any previously fielded consisting of anti-aircraft artillery up 57mm, organized specifically to counter airmobile tactics. Nap-

of-the-earth flying countered these large-caliber, high altitude threats. Additionally, the U.S. cavalry pilots saw for the first time enemy tanks – PT 76, T-34, and possibly T-54s. The aviators attacked these heavy targets with the weapons on hand – flechette, white phosphorous, and high explosive rockets; and, in the case of some Cobras, 20 millimeter cannon. The preferred technique was to hand off these targets to tactical air support.<sup>23</sup> Brigadier General Sidney B. Berry, Jr., Assistant Division Commander(Operations) of the 101<sup>st</sup> and coordinator of U.S. aviation for the Vietnamese I Corps Commander, commented about the lessons learned from LAMSON 719, and foretold the future of Army Aviation:

We need now tank-defeating armed helicopters. Had we entered LAMSON 719 with a helicopter armed with an accurate, lethal, relatively long-range anti-tank weapon, we would have destroyed many more NVA tanks and would have rendered more effective close support to Vietnamese ground forces. As I consider our experience against NVA tanks in Lamson 719 and ponder what would face us on a European-type battlefield, I am absolutely convinced that the US Army must field immediately an armed helicopter with an effective tank-killing capability.<sup>24</sup>

This new threat would continue to evolve. By 1972 the AH-1s faced T-54 tanks and SA-7 man-portable air defense weapons. An experimental TOW team deployed to Kontum, and demonstrated the effectiveness of the anti-tank missile.<sup>25</sup> A long-range missile and an advanced attack helicopter would be needed in the future to operate against these armor threats and a deadly air defense environment against the Soviets in Europe. The AH-64 would meet these demands.

#### Post-Vietnam: Aviation to Defeat the Soviets

The Soviets watched and learned from the experiences of Vietnam. In response to the U.S. emphasis on fixed and rotary wing aircraft, they developed an array of air defense weapons at all echelons including mobile, radar-guided anti-aircraft artillery

(ZSU 23-4), and radar and infrared guided surface-to-air missiles (SA-9 and later SA-8).

The need to counter large mechanized formations was obvious; the viability of attack helicopters against this formidable anti-aircraft threat was in question.

In 1972 Seventh Army conducted scientific trials to test the AH-1's tank killing ability in the terrain and weather of Germany against a well defended armor threat. The effectiveness of the anti-tank helicopter was unquestionable, however, the pilots who proved this were German and Canadian aviators trained in NOE tactics. American pilots fared far worse than their allies. The TOW Cobra was now on its way to be an indispensable weapon on the European battlefield, though the American training and tactics from Vietnam would be exchanged for stand-off hovering fire engagements to survive against the Soviet threat.<sup>26</sup>

Numerous studies forwarded the importance and necessity of attack helicopters and attack and cavalry units throughout the 1970s. They also gave impetus to development of the advanced attack helicopter (AAH), which would later become the AH-64 Apache. In 1979 the director of Army Aviation spelled out the importance of attack helicopters stating that, "the Army's most urgent need will be the attrition of numerically superior armored forces. Necessarily the TOW missile and ultimately the Hellfire missile will be two of the most important systems to accomplish this." He goes on to say that "attack helicopters are the most important units in the Army's structure."<sup>27</sup> The Army was leaving Vietnam behind and developing a new vision for the attack helicopter. The 1977 version of FM 17-50: *Attack Helicopter Operations* clearly stepped away from use of attack helicopters in a close air support or fire support role. The manual declared that "attack helicopter units are aerial maneuver units employed

as integral parts of the combined arms force...organized primarily to destroy tanks and other armored vehicles.”<sup>28</sup>

Army doctrine, not just aviation, was changing to face the new threat. The U.S. Center for Military history summed up the evolution of doctrine and thinking in the 1970's by comparing the Army's operational doctrine bible, FM 100-5: *Operations* from 1976 to the 1982 and 1986 versions. This doctrine would directly affect the evolution of the attack helicopter and employment of Army Aviation. The author states:

After Vietnam, Army planning emphasized the Warsaw Pact threat to NATO, in particular the need for U.S. forces to defeat a technically sophisticated and numerically superior opponent. This problem required a new approach, presented in the 1976 edition of Field Manual 100-5, *Operations* ... [The] Active Defense concept emphasized the tank as the pivotal element of land forces, promoted the concentration of fires over the concentration of forces wherever practical, and advocated replacement of tactical reserves with the lateral movement of unengaged forward units behind a strong covering force. Such a radical departure from earlier doctrine proved both controversial and difficult to implement in the field, especially outside the NATO area. The next edition of FM 100-5, issued in 1982 and revised in 1986, was organized around the idea of Airland Battle, a more generalized concept stressing aggressive operations in depth with an increased emphasis on the exploitation of tactical air power.<sup>29</sup>

Airland Battle doctrine called for airpower in all forms to fight the Soviets in depth. Army Aviation planners during this time were developing organizations and equipment to fight independently as an offensive tank killing organization. In 1979, General Maddox, commander of the Aviation Center, told *Aviation Week & Space Technology* that the Army was fielding air cavalry combat brigades (ACCB) specifically to fight armor. Learning from the latter stages of Vietnam and the 1973 Arab-Israeli War, Army planners were convinced that using the cover of darkness, NOE tactics, stand-off missiles, and electronic warfare could “exploit the attack helicopter's contribution to the

total land battle and to ... [mass] fires, just [as] we mass the fires of tanks and artillery for major impact of the battle.”<sup>30</sup>

#### Aviation Branch Established: AH-64 Apache Changes the Future of Aviation

The AH-64 Apache is the aircraft that would enable this vision. With its survivability, maneuverability, speed, night vision, and stand-off weapons it could survive on the European battlefield and destroy entire formations of Soviet armor before they could reach friendly ground forces. The complexity of this machine, and the specialization required to employ aviation in a complex battle were in a large measure responsible for establishment of Aviation as a separate combat arms branch. Both required specialists who could not spend enough time in their basic branch to be qualified and competitive, while spending requisite time in aviation to maintain expertise. In his 1983 memo to the Secretary of the Army, Chief of Staff General E.C. Meyer also pointed to diffused training and doctrine proponentcy, as well as equipment complexity, and personnel management considerations as reasons for creating a separate branch. He believed Airland Battle in response to Soviet threats has "moved aviation in to the realm of a combat maneuver element requiring its full integration in the Combined Arms team.”<sup>31</sup> These same forces would drive Army Aviation to be a deep attack oriented maneuver element, integrated into the ground commander's scheme of maneuver, but not directly supporting friendly forces in contact.

Throughout the Cold War and beyond, some units, such as the 101<sup>st</sup> Air Assault Division (AASLT DIV), who stood alert and trained to deploy a brigade team worked together frequently, but the focus of the branch would move to the deep attack. The emphasis within Aviation, and in the Army at large, was to develop an answer for Soviet

numbers drove the branch farther and farther from its roots as an integrated partner of a ground unit in the close fight. The 1982 edition of *FM 100-5: Operations and Airland Battle* doctrine were hailed as a boon to aviation and air cavalry. Its emphasis on deep attack and interdiction were exciting times in Army Aviation as leaders forged their own path.<sup>32</sup> The move away from traditional roles also moved aviators away from their compatriot ground forces in the eyes of some. In 1986, after observing training at the National Training Center (NTC), Brigadier General John C. Bahnsen, expressed his view that aviation training had become disconnected from the combined arms team and that aviation was a “disinterested taxi driver come to fly around the edge of a battle he knows nothing about.”<sup>33</sup>

Aviation branch was always cognizant of being a member of the combined arms team, and never espoused an aviation centric war-winning strategy such as the air power zealots that gave birth to the Air Force. Army Aviation did, however, move its place on the battlefield from the close fight in which aircraft provided direct fire support to a ground force in contact, to an independent engagement area far removed from the immediacy of the infantryman facing a target. The focus of Aviation as an institution is reflected in attack helicopter doctrine; these manuals are stepping stones that build a path from integrated close air support, to independent adjacent unit working away from ground forces.

#### Doctrinal Evolution – Turning Our Back on Close Air Support

The doctrine from Vietnam to the modern era demonstrates the drastic change in philosophy of attack aviation. Both the 1969 and 1973 versions of *FM 1-40: Helicopter Gunnery* unabashedly puts attack helicopters in a fire support role defining close air

support as air attack by attack helicopters in close proximity to friendly forces.<sup>34</sup>

Capitalizing on their ability to identify and fire close to friendly locations, the authors state that the best use of attack helicopters was when targets were within 200 meters of friendly locations.<sup>35</sup> Both of these manuals provided clear call for fire formats and procedures to plan, coordinate, and execute rotary wing CAS. By the mid-1970s, however, the mission of the attack helicopter was beginning to change.

In 1975, aviation planners explained the new units, missions, weapons, and tactics being developed to address the vast Soviet armor threat in Europe. The Air Cavalry Combat brigade was equipped with AH-1 Cobras armed with anti-tank missiles, making this the first unit specifically designed to destroy enemy armored formations. Aviation planners commented that “integration of air cavalry and attack helicopter units into [the] Army has required no significant revision in principles of air cavalry doctrine.”<sup>36</sup> They pointed out that the attack helicopter company is used as a maneuver element by ground commanders, along with tank and mechanized infantry units. It is controlled, in most cases, by the ground commander, just the same as his other maneuver elements.<sup>37</sup> The new vision was to fight as an adjacent, co-equal unit maneuvering away from ground forces. In just a few short years the attack helicopter’s role had changed drastically.

This change is codified in the 1976 version of FM 1-40 which demonstrated a complete reversal of the helicopters location and role on the battlefield, stating that “attack helicopter battalion and air cavalry squadron are maneuver units ... these units will seldom, if ever be used in a fire support role and for this reason do not usually answer ‘calls for fire’ from other maneuver units.”<sup>38</sup> The contrast to the FM 1-40 of only

three years prior is amazing. The 1976 version has little mention of integrating with ground forces, only to mention that aviation is part of the combined arms team.

The AH-64's improved survivability and lethality pushed attack doctrine toward deep operations away from engaged ground forces. Published after reorganizing into attack helicopter battalions and air cavalry squadrons, the FM 1-112: *Attack Helicopter Battalion* series of doctrinal manuals from 1986 through 1997 centered on the deep attack. The initial 1986 version sought to validate the attack battalion as a separate, equal combat arms maneuver element on the battlefield. In all versions of FM 1-112 through 1997 the attack doctrine never abandons their ground counterparts; but the relationship is one of an adjacent unit, integrated into the overall ground scheme of maneuver, whose operations are deconflicted by graphics and fire support coordination measures. While the doctrine embraces the battalion's ability to be under the operational control of a ground brigade, the focus is clearly on the deep fight. Until FM 1-112 is superseded by FM 3-04.126: *Attack Helicopter Reconnaissance Operations* of 2007, there is no procedure for close combat attacks and using helicopter fires to destroy enemy that is in direct fire contact with friendlies.<sup>39</sup>

The 1986 version of FM 1-112 adamantly states that the attack battalion is not a CAS or fire support unit, and that it will maneuver much like a mechanized force.<sup>40</sup> While the doctrine says that the battalion can be employed in the close or even rear fight, it is "ideally suited for deep operations;"<sup>41</sup> the level of emphasis is clear as it devotes great detail for fighting the deep battle, but offers no techniques for coordinating operations near friendly forces. The demise of the Soviet Union and the end of the Cold War would do little to change the vision for employment of attack helicopters.



### Post-Cold War – Clinging to Familiar Threats

In a brief nod to the fall of the Soviets, the 1991 version of FM 1-112 recognized that the attack battalion may be used in low intensity conflict (LIC), but must be an integrated maneuver element, not a fire support platform. While claiming to recognize the possibility of fighting a LIC, the authors clearly envision fighting the enemy against which they are most effective, and most comfortable – massed armor.<sup>42</sup> The manual states that the attack helicopter mission is still “to destroy massed enemy mechanized forces and other forces.”<sup>43</sup> One might assume that the “other forces” are the dismounted, irregular forces of LIC. However, the doctrine claims that the attack battalion is not effective in urban areas – the preferred terrain for LIC enemy force – and bluntly states that mortars and artillery are more effective, leaving Apaches on the outskirts of town as a recommended technique.<sup>44</sup>

These authors seem to be in denial of a changing world, recognizing LIC as an unwanted possibility and providing no TTPs for fighting this enemy while offering a 40-page appendix on deep operations. The proven CAS techniques and call for fire procedures that proved effective in LIC in Vietnam, were still long forgotten in Army Aviation. However, whatever doubts these authors may have had about the validity of their priorities, Operation DESERT STORM cemented the doctrine of fighting against the Soviet model. The Iraqis in Kuwait and southern Iraq unwisely massed their armor in conventional fashion, only to be decimated by U.S. and coalition air power, including AH-64s. Their success caused the Army to forget any question of adjusting tactics away from the Cold War model.

## Desert Storm

A General Accounting Office report on Operation DESERT STORM summarized Apache's performance stating, "The Apache's weapon systems ... proved to be effective, according to Apache commanders and pilots. The Apache destroyed 278 tanks, over 600 light and armored vehicles, over 100 pieces of artillery, and a variety of other targets."<sup>45</sup> This tally, though impressive, did not reflect destruction of massed regiments as envisioned in Europe, but as the report cited aviation commanders and pilots, the existing doctrine was proven to its users. Seeing Desert Storm as a defining moment for aviation and its place on the battlefield, LTC Daniel Ball notes that most engagements took place independent of ground operations. He sees this as evidence that attack helicopters had moved away from their direct support role, and claims that the success of these tactics was the driving force for a "fundamental shift from focusing on supporting the ground commander in the main battle area for decisive operations, to providing the majority of its effort for shaping operations."<sup>46</sup>

The GAO qualified the successes, noting that the roles of the Apache were somewhat limited.

"During the ground campaign the Apache's role was limited because (1) ground commanders, who determined the usage and roles of the Apache, did not choose to use it more and (2) the Army did not have the freedom to use the Apache anywhere on the battlefield because of agreements with the Air Force." Both issues may have been the result of the fast-moving 100 hour ground operation – fratricide and risk to crews was a key concern, and coordination with other ground units and the Air Force beyond the fire support coordination line (FSCL) was difficult.<sup>47</sup>

Major Randy Nelson points to the lack of detailed, timely intelligence on the location and disposition of high value targets caused by the fast moving battle as the major reasons units were unable to employ traditional, massed deep attacks. In this

intelligence void, commanders used Apaches to conduct armed reconnaissance, launching them in smaller, continuous elements.<sup>48</sup> In a military that would continue to focus on technology that increased speed and lethality of combat, planners could have reasonably expected the same friction on future battlefields. The lethality of the Apache was not in question following the war; the future of the deep attack should have been.

#### After Desert Storm: The Threat Has Changed

In Somalia and Haiti the Army faced an irregular, urban threat that proved as potentially lethal to helicopters as any sophisticated radar guided weapon. Following these operations Lieutenant Colonel Greg Walker, who would later command 21<sup>st</sup> Cavalry Brigade that trains all new AH-64 units, called for updated doctrine to address this environment.

“Needed immediately are doctrinal updates based on the experiences of the 10<sup>th</sup> Mtn Div during “Operation Restore Hope” and “Operation Uphold Democracy”. Lessons learned by the division’s aviation brigade indicate there is a lack of doctrine concerning aviation operations in a MOUT environment. FM 1-112 [1991] states “Attack helicopters are not well suited to fight over urbanized terrain. The attack helicopter battalion should operate on the outskirts of an urban area and attack mechanized forces that attempt to bypass or envelop friendly forces in the built up area.” This is all the manual offers on the use of attack helicopters in a MOUT environment.

In Somalia, buildings restricted inter-visibility with targets, prevented multiple aircraft engagement, and made mutual support difficult. I believe a doctrinal update will assist in determining the best use of Army Aviation in a MOUT environment. If operations in urban areas continue to be the norm, we must develop procedures that maximize visionics and weapons systems.<sup>49</sup>

The Aviation branch response to the conditions Colonel Walker pointed out came in 1997. FM 1-112: *Attack Helicopter Operations* of 1997 began to realize that attack helicopters may need to adjust to a new environment, but offers little detail as to how.

The document states that in Operations Other Than War (OOTW) attack helicopters may need to provide direct or indirect fire support to friendly forces in an urban environment.<sup>50</sup> The authors reverse their previous position on weapon selection when they state that attack helicopters are more effective than mortars or artillery in a built up area. They discuss the gunnery mechanics of ballistics diving fire in this environment, but no real employment advice.<sup>51</sup>

While recognizing the possibility of supporting troops with close fires, the manual offers no call for fire procedures or methodology for controlling rotary wing close air support despite including a chapter on stability and support operations (SASO). It also identifies a need to provide protective fires to an air assault force, but offers no controlling procedures.<sup>52</sup> The lack of procedures indicates that the Army did not embrace attack helicopters as a CAS platform, despite the Chairman of the Joint Chiefs defining it as a function of the Army in 1993, and FM 1-100 acknowledging the mission in 1997.<sup>53</sup>

The first indication in combat that the conventional, heavy enemy forces would not present massed armor targets was in Kosovo. The 1999 deployment to Albania of 24 AH-64s in a task force formed around 11<sup>th</sup> Attack Helicopter Regiment demonstrated that potential threats around the world heeded the lessons of Desert Storm. The often disparaged Task Force Hawk, supporting NATO's Operation Allied Force, never executed a mission due to the level of threat and other issues, but after action comments show that doctrine and training going into the operation still addressed a Soviet threat model, and that the Army would not see the threat as defining future enemies.

In a Center for Army Lessons Learned summary of TF Hawk deep operations plans, CW4 Santini points out that the task force “faced numerous challenges in executing deep operations in the tactical AO. Small and isolated enemy target sets precluded the TF from massing attack assets.”<sup>54</sup> Small target arrays of a tank platoon and two towed artillery pieces were the norm, causing them to abandon doctrinal deep attack methods and employ in smaller elements. The GAO compared the mission to the Army’s doctrinal employment and concluded that the enemy and mission was not something the Army had foreseen nor were they trained to execute. Their report stated:

In the Kosovo air campaign, Task Force Hawk’s planned deep attacks differed in that they were intended to be part of an air campaign, not an Army led combined arms land campaign. Additionally, the aircraft’s planned attacks principally would have engaged widely dispersed and camouflaged enemy ground forces instead of massed formations. According to Army doctrine officials, doctrine is broad and flexible enough to allow a combatant commander to employ his assets in the manner that was planned for the task force. However, Army officials agree that this planned usage differed from the employment typically envisaged in Army doctrine. Furthermore, Army officials said that the Task Force Hawk experience was not something the Army routinely trained for and was considered to be an atypical operation.<sup>55</sup>

The Yugoslavian forces had adjusted their tactics, but Army Aviation had not; since this was deemed an “atypical operation” there was no impetus to do so.

Years after Desert Storm, the Iraqi military remembered the painful experience of Desert Storm, and leaned toward the Yugoslavian model. When laying out their plan for defense of the nation against a possible second U.S. invasion, Iraqi generals recommended a defense in depth of Baghdad modeled after the Russian defenses of Moscow against Napoleon and Hitler. The generals’ plan was to use dispersed Iraqi forces and local tribes to slow and attrite the U.S. forces, with armored units, including Republican Guard forces playing only a modest role. This was a drastic departure from

the massed, Soviet style doctrine used during the invasion of Kuwait and attempted defense against the Desert Storm coalition. It was a realization, as one Iraqi general put it, that “if we build mechanized brigades in large scale, so long as [U.S. forces] control the air, they will just fly in and destroy the mechanized force.”<sup>56</sup> Saddam Hussein lacked the clarity of memory of his subordinates, and ordered a more traditional deployment of forces.

Saddam was not the only one who still envisioned employment of armored formations along the old model. Advocating employment of Apaches as part of an Air Force air campaign, Army Colonel Brad Mason stated in 2001:

There are many similarities between Air Force and Army Aviation tactics for conducting ground operations. For example, AH-64s best support Army ground combat forces by establishing the operational conditions that will either preclude a close fight or severely degrade an adversary’s combat power prior to his closure with the friendly ground force. Much like USAF interdiction platforms, Apaches are best employed in an interdiction role, massed against enemy formations or other targets that facilitate enemy maneuver, when they are most vulnerable to attack in space and time.<sup>57</sup>

This author and the rest of Army Aviation went into the Global War on Terror still training to fight the Russian horde.

### Operation Enduring Freedom

In response to the terrorist attacks of September 11, 2001, U.S. forces invaded Afghanistan to end Taliban rule and eliminate Al Qaeda sanctuary in the country. One of the first attack helicopter units deployed was 3<sup>rd</sup> Battalion, 101st Aviation Regiment Attack Helicopter Battalion (3-101<sup>st</sup> ATKHB). A review of their operation and lessons learned shows that innovative aircrews can quickly adapt their training to fight a dispersed enemy in a close fight with friendly forces. During Operation ANACONDA, an

attempt by 3<sup>rd</sup> Brigade, 101<sup>st</sup> AASLT DIV (Task Force Rakkasan) to block Al Qaeda's escape to Pakistan, 3-101<sup>st</sup> ATKHB aviators found themselves at very high altitudes executing close combat attacks (CCA) against small enemy elements in very close proximity to friendlies.

Because the brigades of the 101<sup>st</sup> are wed to their helicopters, the aviators of the 101<sup>st</sup> Air Assault Division were better integrated with their supported ground units than were many other divisions. 3-101<sup>st</sup> ATKHB proved effective conducting CCAs with the TF Rakkasan commander opining, "The AH-64 was the weapon that changed the face of the battle."<sup>58</sup> These aviators had conducted combined arms live fire exercises with the infantry prior to deployment, but had to develop and refine close combat attack (CCA) call for fire procedures and flight techniques to conduct running and diving fire at high altitudes and high gross weight. As a Center for Army Lessons Learned (CALL) study pointed out in 2002, the AH-64s are unable to hover at the altitudes of the Afghan mountains. This required aviation units [3-101<sup>st</sup> ATKHB] to modify traditional CCA to orient attack aircraft on the target using running fire. The recommendations go on to say that ground observers need to report their position, the bearing, and the distance to the target.<sup>59</sup> These procedures and elements of a call for fire exactly mirror those used nearly 40 years previously in the jungles of Vietnam. In the 3-101<sup>st</sup> ATKHB lessons learned brief following Operation Anaconda, a detailed call for fire is clearly spelled out as a recommended Army standard.<sup>60</sup>

Follow on aviation brigades in Afghanistan would heed the lessons of the first units deployed. Placing emphasis on the need to be closely integrated with the ground forces, the 82<sup>nd</sup> Aviation Brigade formed task forces of attack, assault, and lift aircraft at

infantry brigade bases from July 2002 to February 2003. In an after action brief the commander labeled air-ground integration as essential to success. Co-locating aviation task forces with supported units allowed the task force to become closely teamed with the brigade combat team, coordinating operations and procedures routinely to provide responsive support.<sup>61</sup> The experiences in Afghanistan were causing aviators to relearn lessons from Vietnam, but in 2003 attack aviation units going into Iraq would learn more hard lessons.

### Operation IRAQI FREEDOM

Shortly after initiation of Operation IRAQI FREEDOM, the AH-64 would make headlines, and not because of any heroic success. On March 24, 2003, two attack battalions of the 11<sup>th</sup> Attack Helicopter Regiment conducted a deep attack to destroy the Medina Republican Guard Division. The massed, deep attack by AH-64s was still the preferred method of employment, but much of the friction caused during fast moving operations of Desert Storm was prevalent during this mission. Late logistics emplacement and gaps in intelligence forced a two hour delay in the mission. The breakdown in timing caused air support to be unavailable during the attack, and poor intelligence resulted in routes over built-up areas where old maps showed open terrain, and ineffective suppression of enemy air defense (SEAD) fires by Army tactical missiles (ATACMS).<sup>62</sup>

Forewarned by civilian observers using cell phones, the Iraqis used unsophisticated, though well-designed massed small arms ambushes to engage the aircraft. Of the 30 aircraft on the mission, 29 received damage, one of which was shot down with its crew taken prisoner. Only one aircraft made it to the engagement area,



and it was unable to engage a single tank due to enemy fire. The traditional attack against an enemy that had adapted to counter known U.S. techniques had been a disaster. Upon hearing the news General Tommy Franks, Central Command Commander, told his staff that new tactics were needed immediately to continue to employ Apaches in this environment.<sup>63</sup>

In response, the Apaches of 3<sup>rd</sup> Infantry Division (3<sup>rd</sup> ID) turned their backs on deep operations in what V Corps termed “over the shoulder support” to destroy enemy in front of the advancing division.<sup>64</sup> The best efforts of air and ground soldiers enabled these “close shaping” operations as Major Cassidy appropriately referred to them.<sup>65</sup> The 101<sup>st</sup> conducted deep attacks, but executed in smaller formations in a scheme akin to a zone reconnaissance forward of the division, with well planned, robust air support. Using circuitous routing to deceive observers, lead / wingman running fire techniques, and aircraft specifically tasked to provide covering fire, the 101<sup>st</sup> AASLT DIV successfully executed a movement to contact to destroy the 14<sup>th</sup> Brigade of the Medina.<sup>66</sup>

Following this deep attack, Apaches in theater transitioned to close support executing close combat attacks. Cassidy sums up the shift by saying:

To adapt to an enemy employing asymmetric tactics from urban-centric dispositions, the 3d ID's attack battalion mission profile transformed from battalion-massed or phased attacks against armor and artillery to continuous close combat attacks in support of the division's main effort brigade combat team (BCT). The Apache's close support role during the war's principally orthodox, formation-against-formation phase signaled the rebirth of aviation in a close fires role and represented a paradigm shift from a decade-long infatuation with deep attacks.<sup>67</sup>

The close support role became the norm for aviation operations with an increased focus on air-ground integration and the use of attack helicopters to conduct

CCA. Major General Mark Curren, Aviation Branch Chief in 2003, summed up the direction the branch was headed in a world the Army had rediscovered in Operations ENDURING and IRAQI FREEDOM. He pointed out that the branch had just published a new aviation brigade doctrinal manual with annexes to address areas not previously covered such as urban operations. He stated, "There is more of an emphasis on division reconnaissance and attack in the close combat fight, vice deep attack."<sup>68</sup> The new manuals also reincarnate gunnery tactics, techniques, and procedures (TTPs) of an earlier time including running and diving fire.<sup>69</sup> FM 3-04.111: *Aviation Brigades* was published in August 2003, and clearly put the emphasis on aviation in a close, direct-fire fight in support of ground troops. Appendix Q of this manual lays out details of coordination, integration, and call for fire procedures.<sup>70</sup>

In the same way 3<sup>rd</sup> ID and the 101<sup>st</sup> AASLT DIV adjusted tactics on the drive north to secure Baghdad, they also embraced dedicated relationships with the supported ground commander. Battalions of the 101<sup>st</sup> Aviation Regiment were OPCON to BCTs after arriving at their final destinations, and transitioned to a team fight focused on reconnaissance and CCAs.<sup>71</sup> This relationship allowed a partnership to foster effective air ground integration (AGI). The 1<sup>st</sup> Battalion, 3<sup>rd</sup> Aviation Regiment of 3<sup>rd</sup> ID echoed this philosophy stating that in the close fight, and especially in urban terrain, face to face coordination and LNO attachment to the ground force is necessary for success.<sup>72</sup>

After its delayed arrival in theater in April 2003, 4<sup>th</sup> Infantry Division's Aviation Brigade quickly transitioned to a close fight and habitual relationships with ground forces. Their after action reviews (AARs) point to the need for robust, close working

relationships with supported units. To accomplish this they placed attack companies OPCON to brigades putting LNOs at brigades, or even lower if necessary for a particular mission. The commander of 4<sup>th</sup> (Aviation) Brigade, 4<sup>th</sup> ID, Colonel Mike Moody cited personal relationships and the resultant trust as keys to effectiveness.<sup>73</sup> In this heavy division, AGI in the close fight was learned during the fight; the 4<sup>th</sup> ID AAR called it “hard earned and worth maintaining.”<sup>74</sup>

Based on lessons from Operation ENDURING FREEDOM and Operation IRAQI FREEDOM I, an organizational change was made to Army Aviation structure to support the Army’s modular force and Combat Aviation Brigades (CAB) were formed which were suited to this protracted fight. As an Association of the U.S. Army report states:

The Army realized the need to refocus its aviation assets on core competencies that supported the land force commander in a nonlinear, distributed battlefield and on areas that could bring the vertical capabilities of aviation to bear on an enemy across the entire range of operations. [A 2003 review of Army Aviation force structure] led to ... reorganizing Army aviation ... into robust divisional aviation brigades that can be readily task-organized to support a brigade combat team (BCT)-centric fight.<sup>75</sup>

This change eliminated corps brigades whose mission centered on the deep attack. Army Aviation would no longer be an adjacent unit conducting shaping operations; it would be an integral part of BCT operations. In addition to aviation structure changes, transformation put a Brigade Aviation Element (BAE) cell in each BCT to provide the expertise to the ground commander and foster relationships that improve effective AGI.

At this point in the war, the path ahead for sustained operations in Iraq and Afghanistan was a resurrection of the philosophy, and in many ways the tactics, of Vietnam. Aviation Brigades in both theaters routinely assigned multi-functional aviation task forces (MATF) to ground brigades in an operational control (OPCON) or direct

support (DS) relationship allowing close, constant contact with supported BCTs to develop a thorough understanding of the ground situation.

1<sup>st</sup> Battalion, 227<sup>th</sup> Aviation Regiment (1-227<sup>th</sup>) deployed to OIF II in 2004, less than a year after being involved in the 11<sup>th</sup> AHR failed deep attack. This deployment was as a part of the 1<sup>st</sup> Cavalry division, and the aviators made AGI a priority during their train-up and combat deployment. Their AAR comments reflect a remarkable adaptation by the squadron, as well as the uphill battle of aviators in a heavy division changing focus:

1-227<sup>th</sup> Aviation is a divisional attack battalion that conducts direct ground support operations for the ground commander. While that statement briefs well it is perhaps the task that most aviators are not proficient at or trained in at all. Compounded by the ground units lack of knowledge and experience in using attack helicopters, this part of mission accomplishment, while it is the largest aspect, also has the most potential for failure and catastrophic results. ... [E]xtensive training was conducted prior to deploying to OIF II with separate ground maneuver units.<sup>76</sup>

This AAR articulates the lessons units needed to learn to fill voids in doctrine.

Currently deployed CABs have continued organize and fight in a manner that incorporates the lessons of the first deployed units. Following similar task organization as their predecessors, the 101<sup>st</sup> CAB's 2008 OEF deployment placed two multi-function aviation task forces (MATFs) in direct support of BCTs. The aviation commanders remarked on the benefit of being co-located and closely tied to their supported BCT. They claim that there is a "marked difference in working with units that have an accurate understanding of how aircraft fight and those units" that do not.<sup>77</sup> This seemingly obvious observation points out that both ground soldiers and aviators learn about each other from constant interaction, making both more effective. This lesson harkens back

to the observations of the 173<sup>rd</sup> in 1965 and Vietnam ground commanders who could do things with “his” Hueys that he could not with someone else’s.<sup>78</sup>

In Iraq, the same relationships exist in most areas of the country. For operations in Baghdad where many BCTs are concentrated, aviation is still largely centrally tasked and controlled, though when two CABs were operating in this area during surge operations, habitual relationships were developed and liaison officers placed at multiple BCTs to facilitate close coordination and effective air ground integration (AGI).<sup>79</sup> Outside of Baghdad where one BCT covers a large area of operations MATFs, or smaller attack reconnaissance elements are OPCON or DS to a BCT. In 2005, 2-101<sup>st</sup> Attack Helicopter Battalion formed a MATF and was attached to a Stryker BCT (SBCT).

Even in Baghdad where the density of BCTs supported by a CAB precludes direct support, close working relationships improve AGI. Anecdotes from one of these Stryker battalion commanders lend credence to the importance of close ties, even without a formal support relationship. The 172<sup>nd</sup> SBCT enjoyed their own attached aviation task force when they arrived in theater in 2005. Their tour was extended in 2006 and they were moved from Mosul to Baghdad where they had to request aviation support through the division because of the general support by aviation of multiple BCTs in the small geographic area of Baghdad. While many battalions in the same circumstance complained that they had difficulty getting effective attack aviation support when requested, LTC Chuck Webster stated that he never lacked support when called. The difference, he stated, was that he and his operations officer took the time to meet and get to know the aviation leaders and develop a relationship. They and the aviators understood each other, and worked together to be effective.<sup>80</sup>

As with the 2003 *Aviation Brigades* manual, attack doctrine would embrace and codify this reborn paradigm. FM 3-04.126 *Attack Reconnaissance Helicopter Operations* of 2007 goes into great detail on CCA and call for fire procedures making it evident that it is the norm. Also, the aircrew training manuals (ATM) for both the OH-58D and the AH-64 included CCA as a task with detailed call for fire procedures and employment techniques.<sup>81</sup> This doctrine and the significance of AGI go beyond Aviation branch.

Aviation support and AGI have become essential in the fights in Afghanistan and Iraq. AGI is a priority for training at all levels for deploying forces. LTG Odierno, at the time the Multi-National Corps – Iraq commander, impressed upon deploying units that no BCT should conduct its mission rehearsal exercise (MRE) without supporting aviation.<sup>82</sup> This became the standard, and AGI remained one of the top priorities for commanders at the combat training centers.<sup>83</sup> To promote understanding of air and ground, and promote an appreciation of the need to be closely tied, all aviation task forces training at the Joint Readiness Training Center (JRTC) were OPCON to the BCT. Some BCTs would not have that luxury in theater; however, the training philosophy was that the BCT would have a much better understanding of aviation operations because of the close relationship and constant dialogue during train-up. With this knowledge, the BCT could request appropriate aviation support, with appropriate tasks to the aviators, and could effectively integrate aviation support into their plan.<sup>84</sup>

Army Aviation has come full circle. The Army developed attack helicopters to provide very close fire support to their brothers on the ground. To be effective, aviators lived and worked with the supported unit, and their operations were completely

integrated. To have the appreciation of ground operations necessary to support ground units, aviators were infantrymen or artillerymen first, and aviators second. Aircraft complexity and restrictive career opportunities eventually led to a separate aviation branch. This separation, coupled with a need to address a numerically superior Soviet Armor threat, led to a separation of ground and aviation soldiers as Aviation Branch focused on deep attacks to shape the close fight rather than directly participating in it. The strategic environment and enemies in Afghanistan and Iraq taught some hard lessons and drove Aviation to tactics and doctrine with which a veteran of the 1960s would be comfortable. Army Aviation has returned to its roots.

## Endnotes

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<sup>14</sup> John J. Tolson, *Vietnam Studies: Airmobility 1961 – 1971* (Washington, DC: U.S. Department of the Army, 1973), 55.

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<sup>16</sup> Ibid., 66.

<sup>17</sup> Ibid., 81.

<sup>18</sup> Ibid., 121.

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<sup>21</sup> Ibid., 115.

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